

## Claims

1. A valve drive of an internal combustion engine comprising a cylinder head with at least one camshaft (1) on which at least one cam carrier (3) is mounted so as to be nonrotatable and axially displaceable,

! the at least one cam carrier (3) having at least one cam (5, 6) on which at least two different cam travel paths (5.1, 5.2, 6.1, 6.2) are configured,

! the at least one cam carrier (2), for the purpose of bearing the at least one camshaft (1, 16), being enclosed in at least one camshaft bearing (3) rigidly mounted on a cylinder head,

! means being provided for axial displacement of the at least one cam carrier (2) in relation to the at least one camshaft (1) between a first axial position and at least one second axial position,

characterized in that

! in the first axial position of the cam carrier, a first contact surface (17) rigidly mounted on a first cam carrier is in contact with a first contact surface rigidly mounted on a cylinder head,

! in the second axial position of the cam carrier, a second contact surface (18) rigidly mounted on a cam carrier is in contact with a second contact surface rigidly mounted on a cylinder head, and

- ! means for application of an axial tensioning force are configured between camshaft (1) and cam carrier (2), the axial tensioning force displacing the cam carrier in the area of the first axial position in the direction of the first axial position, and in the area of the second axial position in the direction of the second axial position.
2. The valve drive as claimed in claim 1, wherein the first axial contact surface (17) rigidly mounted on a cam carrier and the second contact surface (17) rigidly mounted on a cam carrier are side surfaces of the at least one cam.
  3. The valve drive as claimed in claim 1 or 2, wherein the first contact surface rigidly mounted on a cylinder head and the second contact surface rigidly mounted on a cylinder head are side surfaces of at least one camshaft bearing.
  4. The valve drive as claimed in one of claims 1 to 3, wherein the means for application of an axial tensioning force from the base camshaft (1) to the cam carrier (2) is configured as a detent device.
  5. The valve drive as claimed in claim 4, wherein the detent device has a detent means (40) mounted in the camshaft (1) and movable in the radial direction, the detent means (40) being pressed radially outward by a force against the interior surface of the cam carrier (2), and wherein at least two circumferential and axially spaced detent grooves (36, 37) are configured on the interior surface of the cam carrier (2), and wherein the detent grooves (36, 37) are designed in the cam carrier to be v-shaped, as a result of which the two sides of the detent groove form a ramp for the detent means (40).
  6. The valve drive as claimed in claim 5, wherein the radially oriented force is the restoring force of a spring element.

7. The valve drive as claimed in claim 5 or 6, wherein the detent means (40) is a stop bolt, and wherein the sides of the stop bolt facing the detent grooves are rounded.
8. The valve drive as claimed in claim 5 or 6, wherein the detent means is a stop ball (40).
9. The valve drive as claimed in claim 1 to 8, wherein on the at least one base cam shaft (1) a cam carrier (2) is mounted for each cylinder of the internal combustion engine.